



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/059,145

01/31/2002

Takayuki Suzuki

54240-215135

7654

26694

7590

09/24/2008

VENABLE LLP

P.O. BOX 34385

WASHINGTON, DC 20043-9998

EXAMINER

LEE, Y YOUNG

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

09/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

1 RECORD OF ORAL HEARING

2  
3 UNITED STATES PATENT AND TRADEMARK OFFICE

4  
5  
6 BEFORE THE BOARD OF PATENT APPEALS  
7 AND INTERFERENCES

8  
9  
10 Ex parte TAKAYUKI SUZUKI, MAKOTO TOMIOKA, YUMI IKEDA,  
11 AKIRA HASEGAWA, MITSUJIRO KONNO,  
12 and SHINYA MATSUMOTO

13  
14  
15 Appeal 2008-2628  
16 Application 10/059,145  
17 Technology Center 2600

18  
19  
20 Oral Hearing Held: August 12, 2008

21  
22  
23  
24 Before JOSEPH F. RUGGIERO, SCOTT R. BOALICK, and JOHN A.  
25 JEFFERY, Administrative Patent Judges.

26  
27 ON BEHALF OF THE APPELLANTS:

28  
29 HENRY J. DALEY, Ph.D., ESQUIRE  
30 VENABLE LLP  
31 P.O. BOX 34385  
32 WASHINGTON DC 20043-9998

33  
34 The above-entitled matter came on for hearing on Tuesday, August  
35 12, 2008, commencing at 1:48 p.m., at the U.S. Patent and Trademark  
36 Office, 600 Dulany Street, 9th Floor, Alexandria, Virginia, before Victoria  
37 L. Wilson, Notary Public.

38

1 THE USHER: Calendar Number 17, Appeal Number 2008-2628.

2 Mr. Daley.

3 MR. DALEY: Good afternoon. I'm Henry Daley representing  
4 Suzuki, et al., and this is my colleague, Dr. Joan Ellis.

5 JUDGE RUGGIERO: Begin whenever you want.

6 MR. DALEY: Okay. If it pleases the court, I'll begin.

7 I'll begin by very quickly going through the invention, Suzuki, et al.  
8 It deals with an optical endoscope, and if you have the patent in front of you,  
9 you can see the optical endoscope has an endoscope portion.

10 It has an eyepiece at the proximal end of the eyepiece portion, has a  
11 light source, LED light source, and it has a TV camera attached to the IP  
12 section of the endoscope.

13 So this particular device here is directed to an optical endoscope  
14 where you can both illuminate the object that you are looking at, as well as  
15 record or view with a TV camera, as well as the TV camera can be removed  
16 so you can look through the eyepiece.

17 "Eyepiece" is a well-known term in the art where you can actually  
18 place your eye and see the optical image at the eyepiece. Prior art reference  
19 is Hiyama, et al., and this is directed to an electronic endoscope and I have  
20 kind of sketched on one of the embodiments and I have marked out some  
21 features. If this is useful, I can give you my marked off features.

22 This invention has many embodiments of an electronic endoscope. In  
23 this case, the object is illuminated through one of the optical fibers. For  
24 example, 216 is illuminated with the lamp 221. That illuminates the object  
25 at the distal end, which is then observed through the lens 231 and the CCD  
26 element 232.

1       That CCD element is at the distal end and the image is picked up  
2 immediately at the distal end and transmitted electronically through signal  
3 cable 234 to the signal connector 235 which connects electrically to the  
4 signal connector receptor 236.

5       So what you have there is an electronic endoscope in contrast to the  
6 invention which is an optical endoscope. In this electronic endoscope, the  
7 image is picked up with the CCD, transmitted electrically, and the signal  
8 connector is an electrical signal that's an electrical signal connecting to that  
9 component.

10       I also have -- and I'm not sure if this is something you are interested in  
11 seeing but I have photographs that correspond to the schematic illustrations.

12       In the prior art, there is a schematic illustration, which is also a patent  
13 by the same assignee, and in the application, there is a schematic illustration,  
14 and in both cases it is the same assignee, and in this photograph, it shows the  
15 actual devices corresponding to those schematic illustrations.

16       I have some photographs if you are interested in seeing these  
17 photographs. It helps to see what we are referring to.

18       JUDGE RUGGIERO: If you have them there --

19       MR. DALEY: Okay.

20       JUDGE JEFFERY: I have a question. Has the examiner seen these  
21 photographs?

22       MR. DALEY: No, the examiner has not seen the photographs.

23       You can see on the right-hand side of the -- right-hand side of the  
24 photograph corresponds to the prior art, the electronic endoscope. Down at  
25 the white portion there is where the -- distal end is where the -- where you  
26 have the lens and CCD and the signals pass electronically up through the

1 endoscope to the section where there is an operating section 208 and  
2 operating knobs 215.

3       What this does is you turn that knob; it allows you to basically move  
4 the end of that endoscope. So that's the prior art endoscope. An example of  
5 an embodiment corresponds to the application and the optical endoscope is  
6 on the left of that figure.

7       In this case, it is a hard endoscope or a stiff endoscope. Those are  
8 often used in surgery where -- just through an incision in the patient and the  
9 surgeon will hold the end at the top in the video where you see there is an  
10 attachment to the solid portion and that's the portion where the light source  
11 at the television -- the TV attaches to the eyepiece of the endoscope.

12       Now, the examiner interpreted -- let me refer now to the claims and  
13 I'll refer to the independent claims.

14       If you turn to claim 54, claim 54 claims an endoscope, TV camera and  
15 a light source and the endoscope has an insertion part that has a thin long  
16 shape, a holding part that continues extending from the partial end of the  
17 insertion part, and an eyepiece formed on the holding part.

18       The examiner interpreted the signal connector 235 in this example of  
19 figure 13 and similar components in other embodiments. He interpreted that  
20 as being an eyepiece section. It is clear in that reference that it is an  
21 electrical connector and not an eyepiece section.

22       The eyepiece section as specified in claim 54 has the TV -- if you look  
23 at the next paragraph down, wherein the TV camera has an image pickup,  
24 that paragraph, it goes on to say the -- the said TV camera is optically  
25 connected to the eyepiece section of the endoscope to receive an optical  
26 image through the eyepiece section.

1           So we believe this is a clear distinction -- this feature alone is a very  
2 clear distinction between the prior art and the invention. The invention does  
3 not have an eyepiece section and does not have a TV camera connected --  
4 optically connected to the eyepiece section.

5           JUDGE RUGGIERO: Let me ask you a question.

6           MR. DALEY: Sure.

7           JUDGE RUGGIERO: I think your primary contention is that Hiyama  
8 is an electronic endoscope, doesn't have a camera, doesn't have an eyepiece.  
9 That's correct? I'm looking at your -- figure 1 of your drawings, which is an  
10 illustration of the admitted prior art and it appears to be an optical endoscope  
11 where the camera is attached to the eyepiece. Is that correct?

12          MR. DALEY: The examiner did not raise that during prosecution at  
13 all.

14          JUDGE RUGGIERO: No, I'm raising it. I'm asking it now.

15          MR. DALEY: And I'll address that but the examiner didn't raise it at  
16 all. That -- in that embodiment in figure 1, it doesn't have -- you can see that  
17 it has a cable -- optical cable 2 coming out to a large external illumination  
18 source 3.

19          JUDGE RUGGIERO: Okay.

20          MR. DALEY: The invention has -- in the handset, it has a plurality of  
21 LEDs. It has an illumination system that goes right into the handset. This  
22 handset is the portion where the surgeon will hold the endoscope and use it  
23 during surgery, so it has to be small, compact, and it has to be something  
24 that he can actually use during surgery. This was not available in this prior  
25 art.

26          JUDGE RUGGIERO: Well, I wonder if you could tell us -- take a

1 look at claim -- your claim 68. And I wonder if you could go through there  
2 and tell us what is actually missing from the figure 1 prior art.

3 MR. DALEY: From the figure 1 prior art? Yes, that's what I was just  
4 talking about. If you look at claim -- we are looking at claim 54?

5 JUDGE RUGGIERO: How about 68?

6 MR. DALEY: Which one?

7 JUDGE RUGGIERO: 68 seems to be the broader claim.

8 MR. DALEY: 68. Okay. 68 is directed to the light source that's  
9 mounted on the endoscope, so that's direct to the light source that has a  
10 holding part continuous extended, that has an eyepiece section, optical  
11 connector to receive -- that light source comprises a plurality of LEDs and  
12 supplies illumination to the light guide or the endoscope.

13 JUDGE RUGGIERO: So the difference would be the fact that the  
14 light source has plural LEDs?

15 MR. DALEY: Yes, that's the difference with figure 1. Figure 1  
16 would be used in a prior art illumination system, where it's typically a lamp  
17 to illuminate an image that they can see through an endoscope.

18 JUDGE RUGGIERO: Okay.

19 MR. DALEY: And to add to that, you can look through Hiyama and  
20 all of the illumination systems that are used to illuminate the image are  
21 lamps, in other words, they give them sufficient light to actually illuminate  
22 the image and to obtain an optical image.

23 JUDGE RUGGIERO: I guess that's it, unless you have something  
24 else.

25 MR. DALEY: That -- that was our main distinction. My colleague  
26 reminded us that we were discussing some further distinctions that, you

1 know, further distinguish this prior art reference.

2 I focus on a couple of differences, the IP section and so on is very  
3 different, so electronic endoscope rather than an optical endoscope. And  
4 really the focus of this is to be able to observe depth in three-dimensional  
5 images and so on.

6 And so what this prior art image is doing is they are transmitting, in  
7 addition to illumination light that's used to actually see what they are looking  
8 at through the endoscope, they use a reference light, in some cases lasers, in  
9 some cases LED, but those are merely just reference points, where these  
10 specific reference points are picked up and then processed in order to give  
11 them the three-dimensional image or the depth image.

12 So the lasers and LEDs in this prior art reference are not illumination  
13 sources to illuminate an image in order to get an image of the object you are  
14 looking at through the endoscope. Those are used as a reference point to  
15 process to give you depth information and possibly 3-D images.

16 Are there further questions or -- I think we addressed this but the fact  
17 that using LEDs, it enables -- to use LEDs to illuminate, a couple of criteria  
18 that has to provide a bright enough image, you have to have the right  
19 spectral composition and so on, and it is not an easy thing to do to get a good  
20 quality illumination in order to get a good quality image using LEDs.

21 So to illuminate with LEDs is something to my knowledge hasn't been  
22 done before. I'm not aware of any prior art where that has been done for that  
23 before the priority date of this is -- '96 is the earliest filing date. Yes. I think  
24 that addresses that point.

25 JUDGE RUGGIERO: Okay.

26 MR. DALEY: Any -- any other questions?



- 1 JUDGE RUGGIERO: Okay. Thank you.
- 2 (Whereupon, the proceedings at 2:04 p.m. were concluded.)